

BB

D2

①⑨  **Europäisches Patentamt**
European Patent Office
Office européen des brevets

①① Publication number:

0 200 924
A2

①②

EUROPEAN PATENT APPLICATION

②① Application number: 86104566.4

⑤① Int. Cl.: **F 21 V 5/06**

②② Date of filing: 03.04.86

③① Priority: 12.04.85 IT 1515685 U
12.04.85 IT 1515785 U
24.07.85 IT 1521585 U

⑦① Applicant: **Bortoluzzi, Pietro, Via Roma 135,
I 31010 Godega S.U. (Treviso) (IT)**

④③ Date of publication of application: 12.11.86
Bulletin 86/46

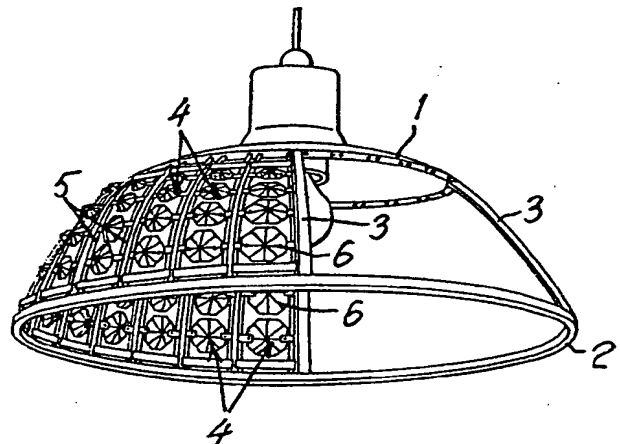
⑦② Inventor: **Bortoluzzi, Pietro, Via Roma 135,
I 31010 Godega S.U. (Treviso) (IT)**

⑧④ Designated Contracting States: **AT BE CH DE FR GB IT LI
LU NL SE**

⑦④ Representative: **Porsia, Bruno et al, c/o Succ. Ing.
Fischetti & Weber Via Caffaro 3/2, I-16124 Genova (IT)**

⑤④ **Crystal elements light fixture.**

⑤⑦ At least a part of the light fixture consists of at least one row of crystal elements (6) mounted between two supporting lateral rods (5) that can be fastened, preferably in a removable manner, between two spaced apart co-axial rings (1, 2) of the supporting structure of the light fixture.



EP 0 200 924 A2

ACTORUM AG

- 1 BORTOLUZZI Pietro,
Godega S.U., Treviso, Italy.

5

Crystal elements light fixture.

- 10 This invention relates to crystal elements light
fixtures. By the term "crystal elements" are called,
according to the invention, generally faceted pieces of any
desired shape, such as, for example, a round, a polygonal, a
quadrangular, a triangular, an oval, a flat, a lenticular, a
15 spherical shape, or the like, which are made of crystal,
glass, strass, plastics, or the like, and preferably are
translucid or transparent, colourless or colored.

- The invention aims to realize crystal elements light
fixtures of the above-said kind, that can be made in a
20 particularly easy and simple manner, and that permit to
obtain special structures and ornamental effects.

- To this end, the invention provides a light fixture
in which at least a part thereof consists of at least one
row of crystal elements mounted between two supporting
25 lateral rods. The two supporting rods may be either parallel
to, or convergent toward, or divergent from each other,
while the crystal elements may be fitted directly on the two
rods, or else they may be fastened to the said rods by means
of hooks, brackets, or the like. However, it is also
30 possible to fasten the crystal elements by means of hooks,

1 brackets, or the like, to crystal-supporting crosspieces
extending between the two supporting lateral rods, and
which may be made of one piece with the said rods, or may be
fastened and coupled thereto, more particularly, fitted
5 thereon by means of end eyelets.

The two supporting lateral rods that are associated
with each row of crystal elements, may be made of one piece
with the supporting structure of the light fixture, or they
may be added and attached in any suitable manner to a
10 supporting structure of the light fixture.

More particularly, in one advantageous embodiment of
the invention, the two supporting lateral rods that are
associated with one row of crystal elements, may be inter-
connected so as to form with the row of crystal elements
15 interposed therebetween, a crystal-supporting independent
structural element. These crystal-supporting structural
elements may be of any shape and size, and together with a
supporting structure, they permit to compose light fixtures
of any desired shape and size, thus allowing large possibi-
20 lities to the creative impulse.

The above-said structural elements formed by a row
of crystal elements between two supporting rods, may be
firmly secured to the supporting structure of the light
fixture. Preferably, however, according to one embodiment of
25 the invention, the said crystal-supporting structural
elements are attached to the supporting structure of the
light fixture in any suitable, easily disassemblable and
re-assemblable manner, for example, by simply fitting them
in. Thus, the cleaning of the light fixture is facilitated,
30 since the individual structural elements comprising the

1 crystal elements can be disassembled from the supporting structure of the light fixture, to be more easily dusted or washed.

According to a further feature of the invention, the
5 individual crystal elements are fixed to the brackets for fastening them on the respective supporting lateral rods or to their crosspieces by means of rivets, preferably by means of tubular rivets. The heads of the rivets may be small and flat, and do not protrude to an excessive degree, so that
10 they do not form any projection on which there may be caught a cloth with which the crystal elements are normally cleaned or dusted.

Further features of the light fixture according to
15 the invention will appear in the other dependant claims, and in the following specification of some embodiments shown in the annexed drawings, in which:

Figure 1 is a perspective view illustrating a first
embodiment of a crystal elements light fixture according to
20 the invention, in which some parts have been omitted in order to more clearly show the supporting structure of the light fixture.

Figure 2 is an elevational view with parts in section, illustrating a disassemblable structural element of
25 the light fixture according to Figure 1.

Figure 3 is an elevational view illustrating a modified embodiment of the structural element according to Figure 2.

Figures 4 and 5 are cross sectional views, in an
30 enlarged scale, illustrating two different ways of carrying

1 out the fixing of a crystal element according to Figures 2
and 3 to the supporting respective lateral rods.

Figure 6 is an elevational view illustrating another
embodiment of the structural element according to Figure 2.

5 Figure 7 is a perspective view, in an enlarged scale,
illustrating a portion of the structural element according
to Figure 6.

Figure 8 is a perspective view illustrating the
blanked element from which there are obtained the crystal-
10 -supporting crosspieces for the structural element according
to Figures 6 and 7.

Figure 9 is an elevational view illustrating a
modified embodiment of the structural element according to
Figure 6.

15 Figure 10 is an elevational view illustrating
another embodiment of a structural element for light
fixtures according to the invention.

Figure 11 is an elevational view illustrating
another way of fixing a crystal element to the two supporting
20 lateral rods.

Figure 12 is a sectional view, in an enlarged scale,
taken on line XII-XII in Figure 11.

Figure 13 is a perspective view illustrating another
embodiment of a light fixture according to the invention, in
25 which some parts have been omitted.

Figure 14 is a vertical partial sectional view, in
an enlarged scale, through the light fixture according to
Figure 13.

Figure 15 is a perspective view illustrating a
30 further embodiment of a crystal elements light fixture

1 according to the invention, in which some parts have been
omitted in order to more clearly show the supporting
structure of the light fixture.

Figure 16 is an elevational view, in an enlarged
5 scale, illustrating a piece of the light fixture according
to Figure 15.

Figure 17 is a cross sectional view, in an enlarged
scale, taken on line XVII-XVII in Figure 16.

Figure 18 is an elevational view illustrating a
10 portion of a modified embodiment of the light fixture
according to Figures 15 and 16.

Figure 19 is a perspective view, in an enlarged
scale, illustrating a crystal-supporting crosspiece for the
embodiment according to Figure 18.

15 Figure 20 is a perspective view illustrating another
embodiment of a light fixture according to the invention, in
which some parts have been omitted.

Figure 21 is an elevational view, in an enlarged
scale, illustrating a structural element for the light
20 fixture according to Figure 20.

Figure 22 is a cross sectional view, in an enlarged
scale, taken on line XXII-XXII in Figure 21.

Figure 23 is an elevational partial view illustrating
a further embodiment of a light fixture according to the
25 invention.

The light fixture shown in Figure 1 has a supporting
structure that, for example, consists of an upper plate or
ring 1, and of a lower ring 2 having a greater diameter than
30 the upper ring 1, and which is connected thereto, for

1 example, by means of one or more arcuate bars 3. Between the
upper ring 1 and the lower ring 2, crystal-supporting
structural elements 4 are mounted the one beside the other,
and consist each of two spaced apart, supporting lateral
5 rods 5 extending between the two rings 1 and 2, as well as
of a plurality of crystal elements 6 arranged the one over
the other in a row, between the two supporting lateral rods
5, and carried by the said rods. In the embodiment according
to Figures 1 to 10, the two supporting lateral rods 5
10 converge upwardly toward each other, since the light fixture
is cap-shaped, but they may also converge downwardly, or may
be parallel to each other, just as in the embodiment
according to Figure 11. Moreover, in the embodiments
according to Figures 1 to 12, the supporting lateral rods 5
15 are so made as to be elastically flexible, and in proximity
of their ends they are interconnected by crosspieces 8. The
crosspieces 8 may be connected to the supporting lateral
rods 5 in any suitable manner. Thus, for example, the two
rods 5 may be fitted through bores in at least one of the
20 crosspieces 8, and may be fixed to the said crosspiece by
welding (as shown for the upper crosspiece 8 in Figures 2,
3, 6 and 10), or else by means of locking screws 7 (as
shown for the lower crosspiece 8 in Figures 2, 3, 6 and 10).
Furthermore, at least one of the crosspieces 8 may be made
25 of one piece with the two supporting lateral rods 5, just as
in the embodiment shown in Figure 9.

The two crosspieces 8 for connection of the lateral
rods 5 are arranged at a distance from the respective ends
of rods 5, so that these rods present freely protruding ends
30 105. Each crystal-supporting structural element 4 is

1 assembled to the supporting structure of the light fixture
by elastically bending it either inwardly or outwardly and
by inserting the protruding ends 105 of the two supporting
5 lateral rods 5 into respective bores provided in the upper
ring 1 and in the lower ring 2 of the light fixture, as
shown particularly in Figure 2. Such an operation for
assembling the light fixture is extremely simple and quick.
The crystal-supporting structural element 4 is held in
assembled position only owing to its elastic deformation,
10 and so it can be easily and quickly disassembled, for
example, for cleaning it, and can be then re-assembled even
by inexpert persons.

The crystal elements 6 may have any desired shape,
such as, for example, a hexagonal shape as in Figures 2, 6,
15 7, 9 and 11, or a square shape as in Figure 3, and are
generally faceted, so as to refract and/or reflect light in
a plurality of directions. The crystal elements 6 may be of
glass, crystal, strass, plastics, or the like, and they may
be transparent, translucent, or dull, colourless or coloured.
20 Moreover, the crystal elements 6 forming a row between the
two supporting lateral rods 5, may be oriented in any
desired way relatively to the said rods 5. Thus, for example,
in the embodiments according to Figures 4 to 9, the crystal
elements 6 have a two-pyramid configuration, with the bases
25 of the two pyramids being substantially co-planar to each
other and to the longitudinal axes of the two supporting
lateral rods 5. In the embodiment according to Figure 10,
the crystal elements 6 still having a two-pyramid configura-
tion, are instead arranged with the bases of the two pyramids
30 being parallel to each other, but being substantially

1 perpendicular to the longitudinal axes of the two supporting
lateral rods 5.

The crystal elements 6 may be fixed in any suitable
manner to the two supporting respective lateral rods 5. In
5 the embodiment according to Figure 2, each crystal element 6
is fixed to the two rods 5 by means of two fixing opposite
brackets 9 that may be made of metal, and that on one side
are fastened on the relative rods 5, while on the other side
they are fixed to the associated crystal element 6, each
10 bracket by means of a metallic tubular rivet 10. More
particularly, in the embodiment according to Figure 4, each
fixing bracket 9 is so bent as to present a small sleeve or
eye hook 109 that encompasses the rod 5, and from which
there extends a wing 209, through which the rivet 10 is
15 passed and is fitted through a respective bore in the crystal
element 6. In the modified embodiment according to Figure 5,
two wings 209 extend from the small sleeve 109 by means of
which the bracket 9 encompasses the rod 5, and these wings
grip therebetween the crystal element 6, and are fixed by
20 means of only one rivet 10 on opposite sides of said element.
Between the fixing brackets 9 fastened on the same supporting
lateral rod 5, spacers 11 may be provided, which consist,
for example, of small tubes or helicoids of wire. These
spacers 11 are provided also between the end crosspieces 8
25 for connection of rods 5, and the brackets 9 for fixing the
upper and lower crystal elements 6.

In the embodiment according to Figure 3, each crystal
element 6 is fixed to the two supporting lateral rods 5 by
means of two opposite pairs of brackets 9. Each fixing
30 bracket 9 may be, for example, made as described by referring

1 to Figures 4 and 5. The spacers 11 are of course provided
only between the brackets 9 for fixing the individual
crystal elements 6, and between these brackets and the end
crosspieces 8.

5 In the embodiment according to Figures 6 to 8, the
crystal elements 6 are fixed to crystal-supporting cross-
pieces 12, that in turn are secured to the two supporting
lateral rods. More particularly, as shown in Figures 7 and
8, each crystal-supporting crosspiece 12 has a median
10 portion 112 which at either end is provided with two
diverging arms 212 terminating each with an eyelet 312. Each
one of the supporting crosspieces 12 is fitted by means of
these eyelets 312 on the two supporting lateral rods 5. The
crystal elements 6 are placed between the crystal-supporting
15 crosspieces 12, and are fixed to pierced tongues 412 in the
median portion thereof, by means of tubular rivets 10. The
above disclosed crystal-supporting crosspiece 12 may be made
in form of a flat piece, shown in Figure 8, which is
preferably blanked from sheet-metal, and the end eyelets 312
20 that are initially co-planar to the median portion 112 and
to the tongues 412 in the crosspiece 12, are then oriented
perpendicularly to the longitudinal axes of the supporting
lateral rods 5 by suitably twisting the respective arms 212,
as it clearly appears in Figure 7. In the embodiment
25 according to Figures 6 to 8, it is not necessary to provide
any spacers between the crystal-supporting crosspieces 12,
since the crystal elements 6 themselves, fixed to the said
crosspieces 12, act as spacers. Spacers may be possibly
provided only between the crystal-supporting end crosspieces
30 12' at the extremities of the row of crystal elements 6, and

1 the respective crosspieces 8 for connection of the two
supporting lateral rods 5. However, the said crystal-
-supporting end crosspieces 12' may be made in such a manner
as to present abutment portions cooperating with the
5 respective connection crosspieces 8, as shown in Figure 6.

In the embodiments according to Figures 2 to 8 and
10 to 12, the two lateral rods 5 for the support of each
crystal-supporting structural element 4 have a round profile,
and may consist of metallic elastic wire. In the embodiment
10 according to Figure 9, the two supporting rods 5 are instead
flat, and are made of one piece not only with the flat end
crosspieces 8 for connection between the said rods 5, but
also with the crystal-supporting intermediate flat cross-
pieces 12. Practically, therefore, each crystal-supporting
15 structural element 4 consists of a supporting piece provided
with at least one row of slots, in each one of them there is
received a crystal element 6 that by means of rivets 10 is
fixed to at least two tongues 412 extending into each one of
the said slots. In the shown embodiment, the said slots are
20 delimited by the two lateral rods 5 and by the several
crosspieces 8, 12, while the tongues 412 for fixing the
glass elements are integral with the said crosspieces 8 and
12, similarly to the embodiment according to Figures 6 to 8.
However, in the modified embodiment according to Figure 9,
25 the tongues 412 may be provided also or only in correspondence
of the lateral rods 5.

In the embodiment according to Figure 10, the
crystal elements 6 are fixed directly to the two supporting
lateral rods 5, more particularly, they are provided with
30 two respective bores by means of which they are fitted on

1 the said rods 5. Spacers are provided between the individual
crystal elements 6, and in the shown embodiment, they
consist of beads 13 fitted on the said lateral rods 5.

5 In the embodiment according to Figures 11 and 12, a
wire 14 is helically wound around each supporting lateral
rod 5, and each crystal element 6 is fastened by means of
its two opposite rivets 10 on a loop 114 formed by the wire
14 wound around the respective rod 5.

10 Also the structure of the light fixture shown in
Figures 13 and 14 comprises an upper plate or ring 1 and a
lower ring 2, but differently from the embodiment according
to Figures 1 and 2, the two rings, the upper ring 1 and the
lower ring 2, are not rigidly and firmly interconnected by
means of one or more bars 3, but are interconnected by means
15 of the crystal-supporting structural elements 4 extending
between the said rings 1 and 2, so that in this case they
perform also a supporting action. The crystal-supporting
structural elements 4 may be firmly fixed, for example
welded, to the two rings 1, 2 of the light fixture, or else
20 they may be attached to the said rings 1, 2 in an easily
disassemblable and re-assemblable manner, just as in the
shown embodiment. To this end, the upper and lower free ends
105 of the lateral rods 5 for the support of each crystal-
supporting structural element 4 are fitted in respective
25 bores in rings 1 and 2, and are locked in these bores, for
example, by means of locking screws 15, as it appears
particularly in Figure 14. For the kind of light fixture
according to Figures 13 and 14 it is possible to use all the
crystal-supporting structural elements 4, as previously
30 described by referring to Figures 2 to 10.

1 In all of the above-described embodiments, it is not
necessary to have all the individual crystal-supporting
structural elements 4 inserted by means of the free ends 105
of the supporting lateral rods 5, into the respective bores
5 in rings 1 and 2 of the structure of the light fixture. For
this purpose, instead of the said ends 105 of rods 5, it is
possible to provide any other suitable pins or projections
on the crosspieces 8 for the crystal-supporting structural
element 4.

10 In the embodiment according to Figures 15 to 19, the
supporting structure of the light fixture consists of an
upper plate or ring 1 and of a lower ring 2, which is firmly
connected to the upper ring 1 by means of a plurality of
bars 3, to which the crystal elements 6 arranged the one
15 over the other in a row between the said bars 3, are
directly fixed. Therefore, the bars 3 form a fixed integrant
part of the supporting structure of the light fixture, and
at the same time perform the function of the lateral rods 5
for the support of the crystal elements 6. Also in this case,
20 the crystal elements 6 may be fixed to the bars 3 in any
suitable manner. In the embodiment according to Figures 16
and 17, saddle-shaped brackets 16 are provided for fixing
the crystal elements 6, and are mounted on the bars 3
astride thereof, and on either side of each bar 3 these
25 brackets present projecting wings 116, to which the crystal
elements 6 are fixed by means of rivets 10. Each crystal
element 6 in one row of crystal elements 6 between two bars
3, is then fixed at two opposite points to the wing 116 of
two saddle-shaped brackets 16, which are mounted astride of
30 the two lateral bars 3. The saddle-shaped brackets 16 may be

1 fixed to the respective bars 3, for example, by means of
metallic wire, or else by squeezing on bars 3 their saddle-
-shaped portions.

5 In the modified embodiment according to Figures 18
and 19, each crystal element 6 is fixed by means of rivets
to the wings 117 of two crosspieces 17 that extend on
opposite sides of the crystal element 6 between the two bars
3, and are suitably fixed to said bars. More particularly,
the crosspieces 17 have at their ends saddle-shaped portions
10 217 by means of which they are mounted astride of bars 3,
and are fixed thereto similarly to brackets 16.

In the embodiment according to Figures 20 to 22, the
supporting structure of the light fixture comprises a lower
plate or ring 2 from which crystal-supporting structural
15 elements 4 freely extend in the upward direction. Each one
of these crystal-supporting structural elements 4 is made as
a self-standing element, and consists of a preferably rigid
small bar, generally made of metal, which is " U " bent over
itself so as to form two supporting lateral rods 5, between
20 which the crystal elements 6 are arranged and fixed. The
said small bar that, for example, consists of a metallic
profiled element, may be bent in such a manner that the two
lateral rods 5 will be either parallel to each other, or
will diverge from, or converge toward their free ends. In
25 proximity of their free ends, the said lateral rods 5 may be
interconnected by means of a crosspiece 8. By the free ends
105 of the two rods 5, each crystal-supporting structural
element 4, thus made, is fitted, for example with a slight
drive, in respective bores 18 provided in the lower ring 2
30 of the light fixture, as shown in Figure 21. In this

1 embodiment, the self-standing crystal-supporting structural
elements 4 are held in place on the supporting structure 2
of the light fixture simply by friction, so that they can be
very easily disassembled for cleaning them, and then re-
5 -assembled again.

Also in the embodiment according to Figures 20 and
21, the crystal elements 6 may be fixed to the two supporting
lateral rods 5 in any suitable manner. In the shown example,
each crystal element 6 partly overlaps the two lateral rods
10 5, and is fixed thereto by means of rivets 10. At their
opposite end to the crystal element 6, the heads of rivets
10 are preferably embedded in corresponding recesses 205 in
rods 5, so that they are not a nuisance when cleaning the
crystal elements.

15 The supporting structure of the light fixture
according to the embodiment shown in Figure 23, still
comprises an upper ring 1 and a lower ring 2, between which
parallel rows of crystal elements 6 are mounted. The crystal
elements 6 of each row are directly fitted on two parallel
20 rods 5 that extend between the two rings 1 and 2, and are
fixed to said rings. In the shown embodiment, the two
supporting lateral rods 5 associated with one row of crystal
elements 6 consist of two branches of a generally metallic
wire forming a " U " shaped loop between the two rings 1 and
25 2, and which starts from one of these rings, for example,
the lower ring 2, passes through two circumferentially
spaced apart bores in the other ring, for example, the upper
ring 1, and comes back to the first ring, to which it is
suitably anchored by both of its extremities. Moreover,
30 according to a further feature of the embodiment according

1 to Figure 23, on each supporting rod 5 that, particularly,
is formed by one branch of a " U " shaped wire, there are
alternately fitted the crystal elements 6 of both of the
rows of crystal elements located at both sides of rod 5, so
5 that each rod 5 provides the support for two side-by-side
arranged rows of crystal elements 6. Spacers consisting, for
example, of beads 13 fitted on rods 5, are interposed
between the individual crystal elements 6, and between these
elements and the two rings 1, 2.

10 In the embodiment according to Figure 23, the rods
5 for supporting the crystal elements 6 form an integrant
part of the supporting structure of the light fixture. The
said crystal elements 6 and the spacing beads 13 provided
therebetween, keep the two rings 1 and 2 at the required
15 distance from each other, even when the supporting rods 5
consist of flexible wires, just as it however occurs also in
the embodiment according to Figures 13 and 14.

Of course, the invention is not limited to the
described and shown embodiments. Thus, for example, in the
20 embodiments according to Figures 1, 13, 15 and 20, the
section of the light fixture provided with crystal elements
6, and which particularly is composed of individual crystal-
-supporting structural elements 4, may be made with an
outwardly concave instead of convex, shape. Moreover, in all
25 of these embodiments, the structure of the light fixture may
be overturned, i.e., the ring 2 of a greater diameter may be
placed above, and the ring 1 of a smaller diameter may be
located below. Also in the embodiment according to Figure 20,
the self-standing crystal-supporting structural elements 4
30 may extend downwardly, instead of upwardly, from any suitable

1 supporting structure of a light fixture.

5

10

15

20

25

30

1

CLAIMS

1. A crystal elements light fixture characterized in that it at least partly consists of at least one row of
5 crystal elements (6) mounted between two supporting lateral rods (3, 5).

2. The light fixture according to claim 1, characterized in that the crystal elements (6) are fixed to the
10 supporting lateral rods (5) by means of brackets (9), each one of the said brackets being fastened on a rod (5) by means of at least one sleeve portion (109) thereof, and presenting at least one wing (209) to which the crystal element (6) is fixed.

15

3. The light fixture according to claim 1, characterized in that the crystal elements (6) are fixed to the supporting lateral rods (3) by means of brackets (16), each one of the said brackets overriding a supporting rod (3)
20 with a saddle-shaped portion thereof, and presenting wings (116) for fixing two opposite crystal elements (6) at both sides of the said rod (3).

4. The light fixture according to claim 1, characterized in that the crystal elements (6) are fixed to crystal-
25 -supporting crosspieces (12) extending between the supporting lateral rods (5).

5. The light fixture according to claim 4, characterized
30 rized in that the crystal-supporting crosspieces (12) are

1 made of one piece with the two supporting lateral rods (5).

6. The light fixture according to claim 4, characterized in that the crystal-supporting crosspieces (12) have
5 their ends provided with eyelets (312) by means of which they are fitted on the two supporting lateral rods (5).

7. The light fixture according to claim 4, characterized in that the crystal-supporting crosspieces (17) have
10 their ends provided with saddle-shaped portions (217) by means of which they are fastened on the two supporting lateral rods (3).

8. The light fixture according to claim 1, characterized in that the crystal elements partly overlap the two
15 supporting lateral rods (5), and are directly fixed thereto.

9. The light fixture according to claim 1, characterized in that the crystal elements (6) are fitted on the two
20 supporting lateral rods (5).

10. The light fixture according to claim 9, characterized in that on one supporting rod (5) there are alternately fitted the crystal elements (6) forming two rows of crystal
25 elements, arranged on opposite sides of said rod (5).

11. The light fixture according to claim 1, characterized in that wires (14) are helically wound around the supporting lateral rods (5), and the crystal elements (6)
30 are fastened on loops (114) formed by enlarged turns of

1 these wires (14).

12. The light fixture according to claim 1, characterized in that the crystal elements (6) are fixed by means of
5 preferably tubular rivets (10) fitted through bores in the crystal elements (6).

13. The light fixture according to claim 1, characterized in that at least one head of the rivets (10) is
10 embedded in the crystal element (6) or in its support (5).

14. The light fixture according to claim 1, characterized in that spacers (11, 13) fitted on the supporting lateral rods (5), are provided between the individual
15 crystal elements (6).

15. The light fixture according to claim 1, characterized in that the supporting lateral rods (3) are made of one piece with the supporting structure (1, 2) of the light
20 fixture.

16. The light fixture according to claim 1, characterized in that the supporting lateral rods (5) are added and fixed to the supporting structure (1, 2) of the light fixture.
25

17. The light fixture according to claim 1, characterized in that the two supporting lateral rods (5) that are associated with one row of crystal elements (6), are interconnected so as to form with the crystal elements (6)
30 interposed therebetween, an independent crystal-supporting

1 structural element (4) for the composition of light fixtures,
in combination with a supporting structure (1, 2).

5 18. The light fixture according to claim 17, characterized in that the crystal-supporting structural elements (4) are attached in an easily removable manner to the supporting structure (1, 2) of the light fixture.

10 19. The light fixture according to claim 17, characterized in that the crystal-supporting structural elements (4) are mounted between two spaced apart co-axial rings (1, 2) of the supporting structure of the light fixture.

15 20. The light fixture according to claim 19, characterized in that the crystal-supporting structural elements (4) are elastically arcuate elements, and by end projections (105) they are fitted in respective bores in the two rings (1, 2).

20 21. The light fixture according to claim 19, characterized in that in correspondence of at least one point, the two rings (1, 2) are rigidly connected to each other.

25 22. The light fixture according to claim 19, characterized in that the two rings (1, 2) are connected to each other only by means of the crystal-supporting structural elements (4).

30 23. The light fixture according to claim 17, characterized in that the crystal-supporting structural elements (4)

1 are made as self-standing elements, and have only one of
their ends fixed in a freely projecting manner to the
supporting structure (2) of the light fixture.

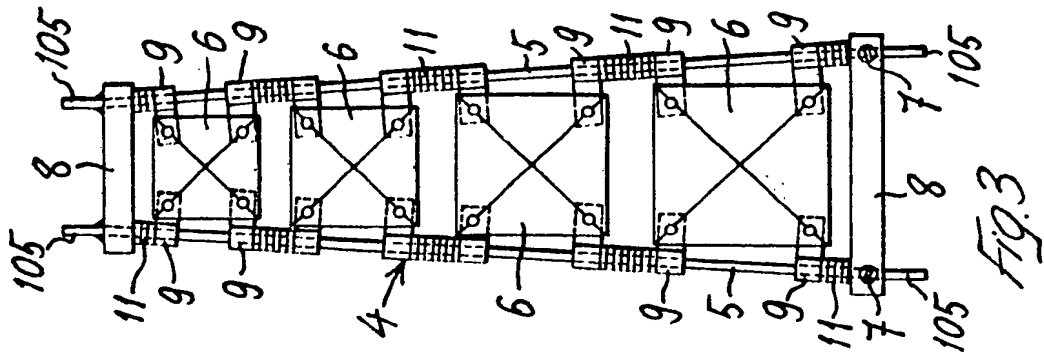
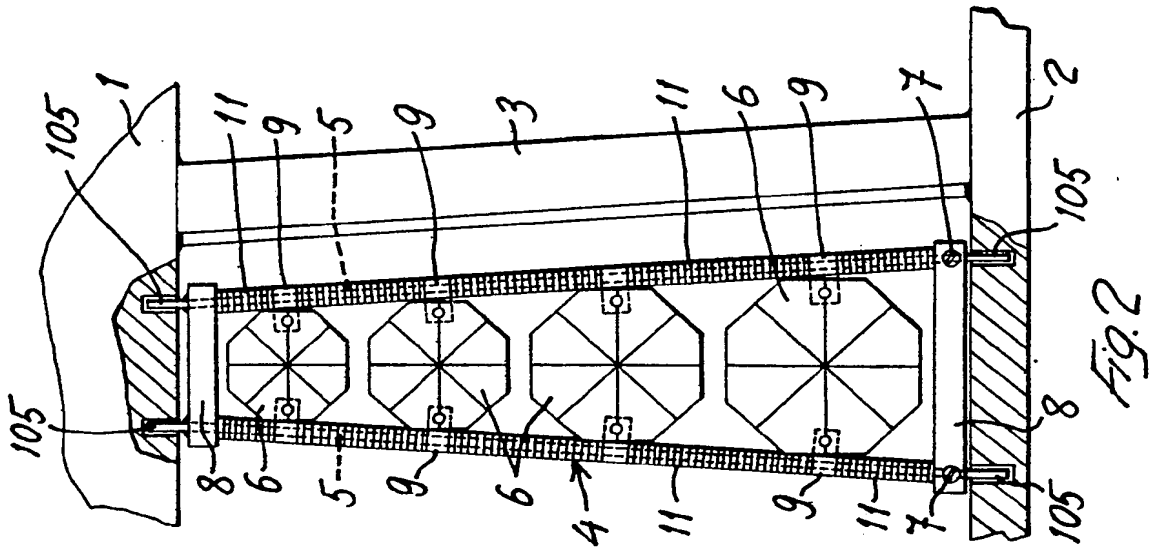
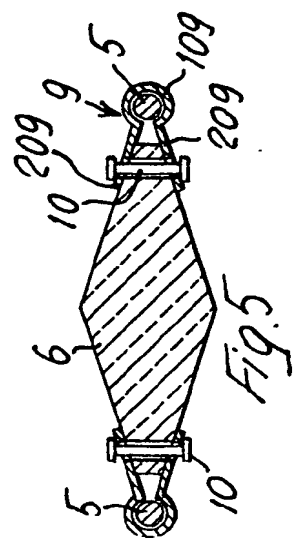
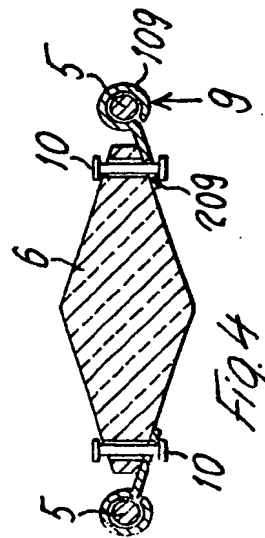
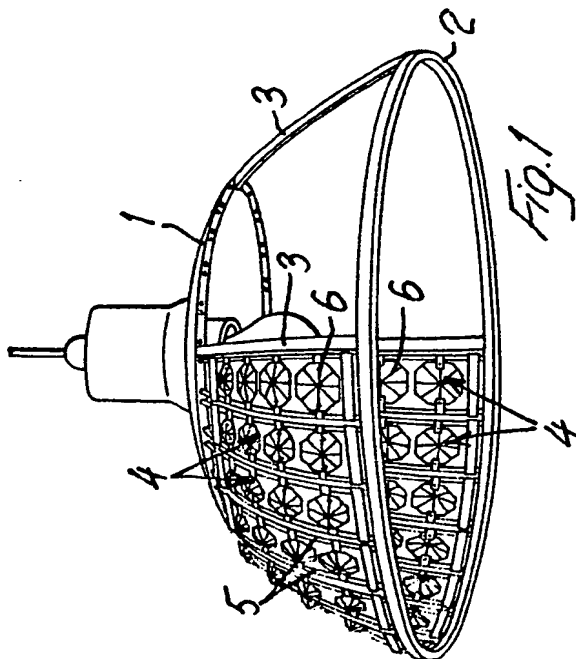
5 24. The light fixture according to claim 1, character-
rized in that the supporting lateral rods consist of " U "
shaped wires extending between two spaced apart co-axial
rings (1, 2) of the supporting structure of the light
fixture, the crystal elements (6) being fitted on the said
10 wires, possibly with the interposition of spacers (11, 13).

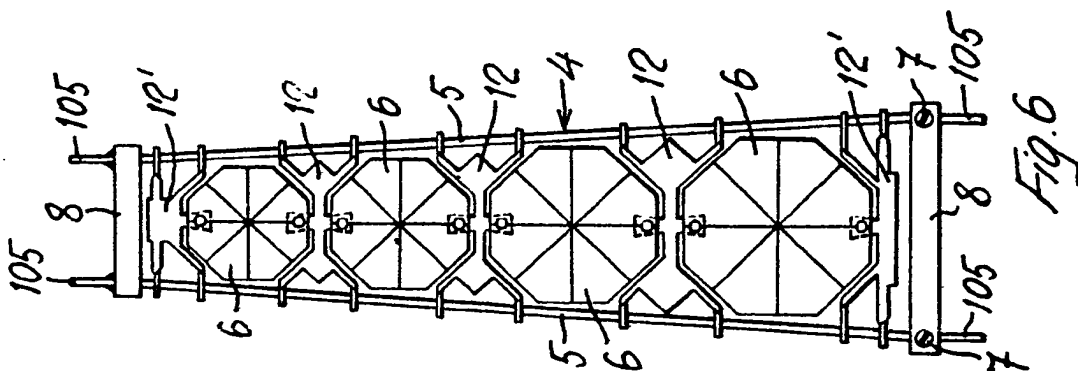
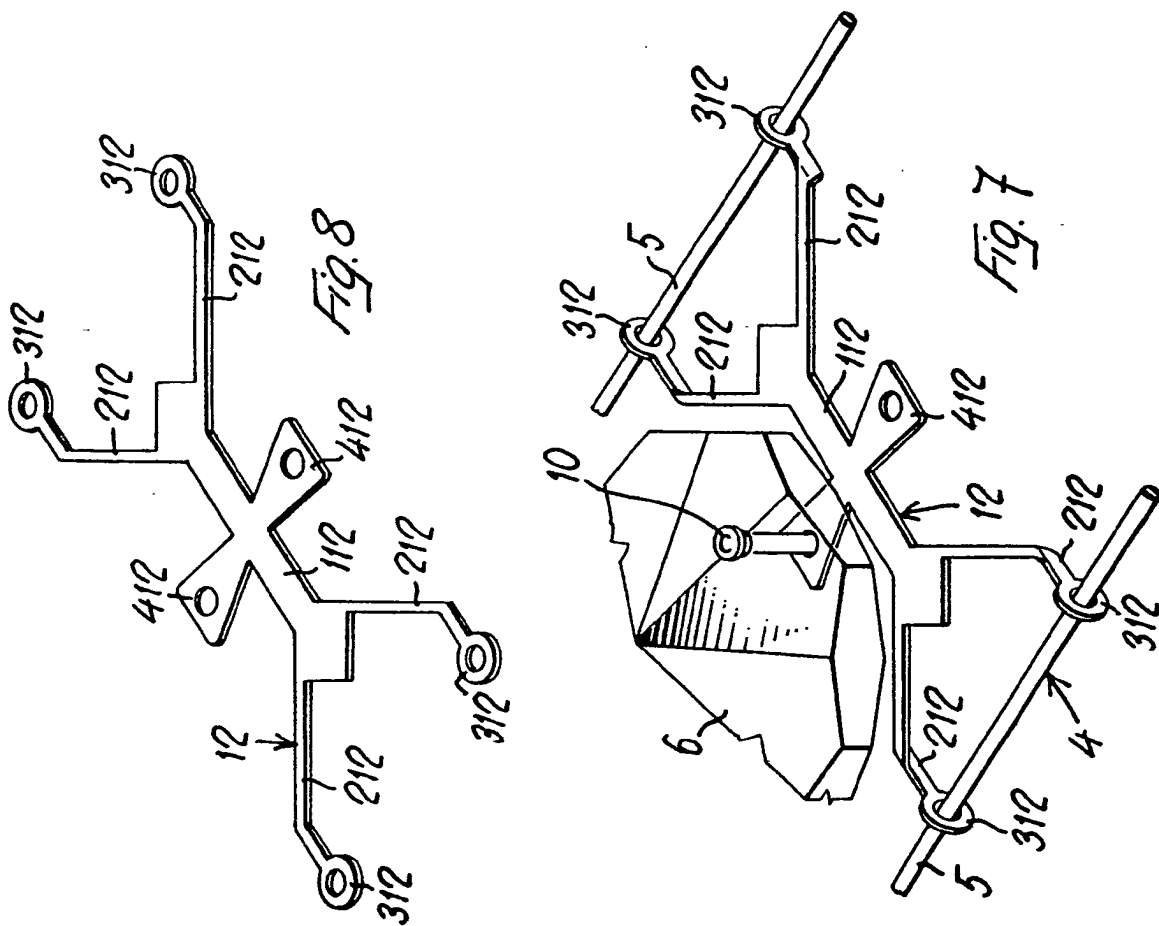
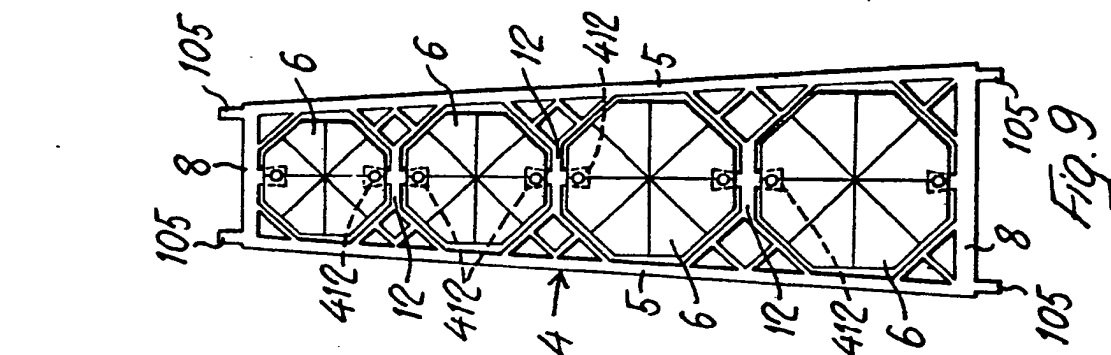
15

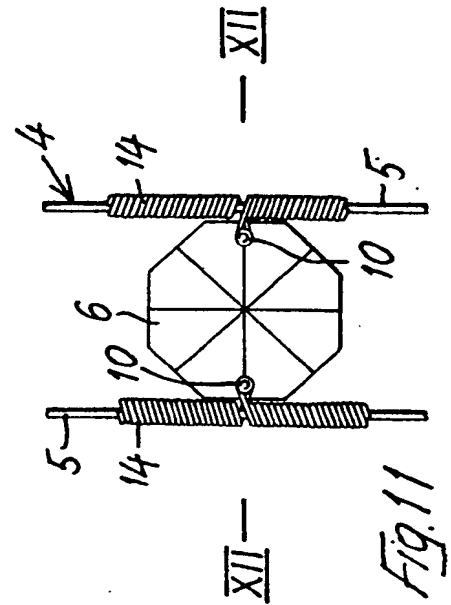
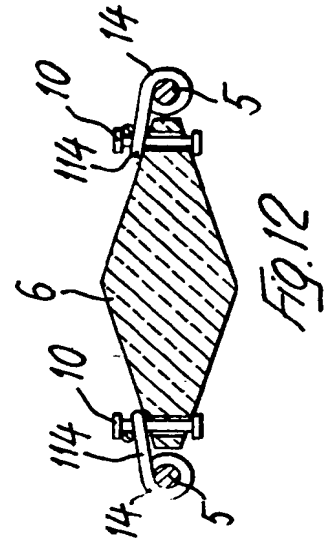
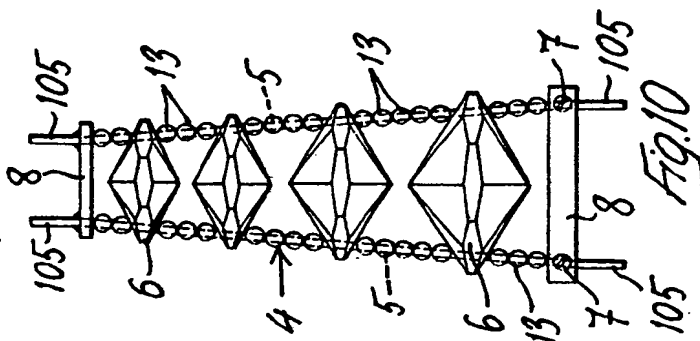
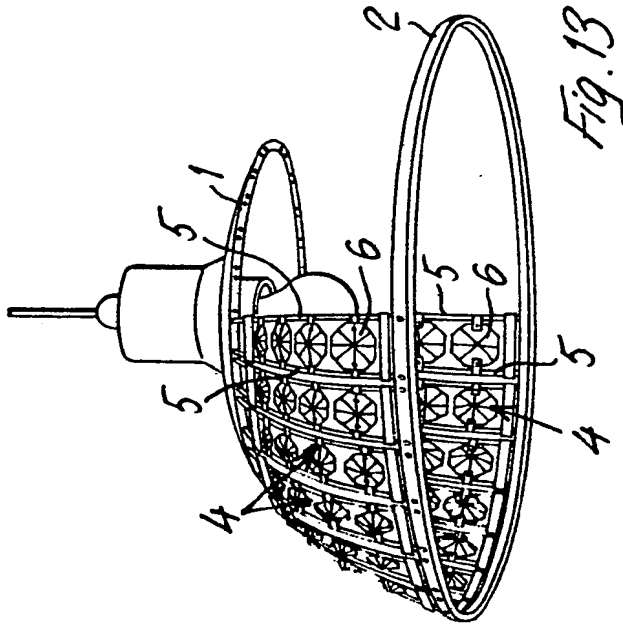
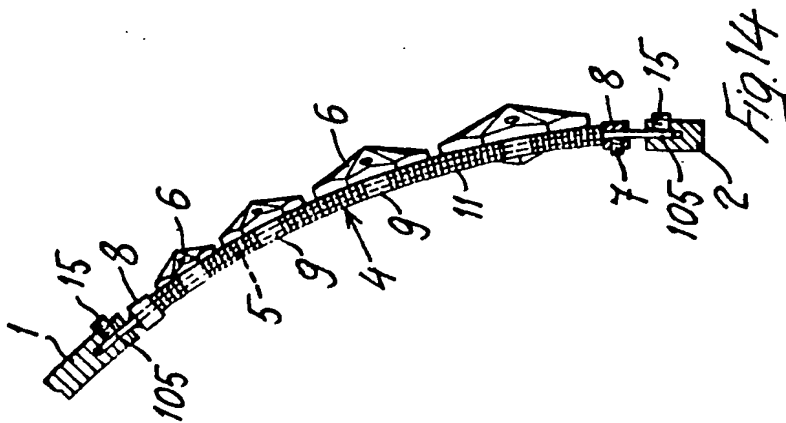
20

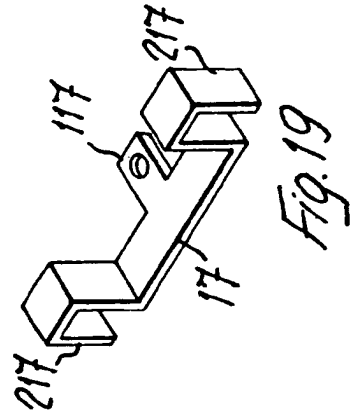
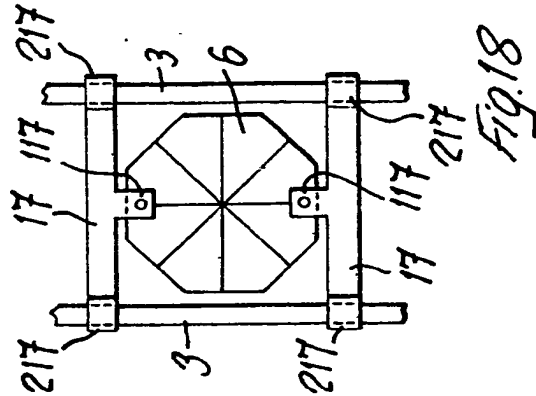
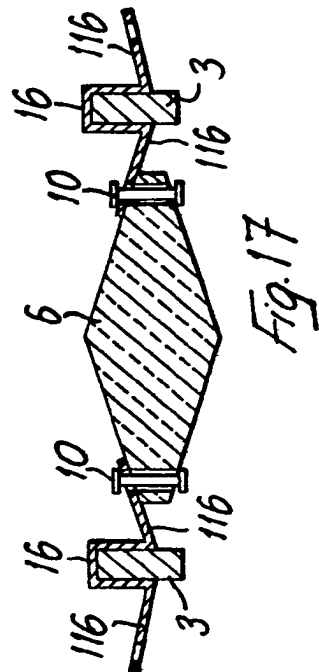
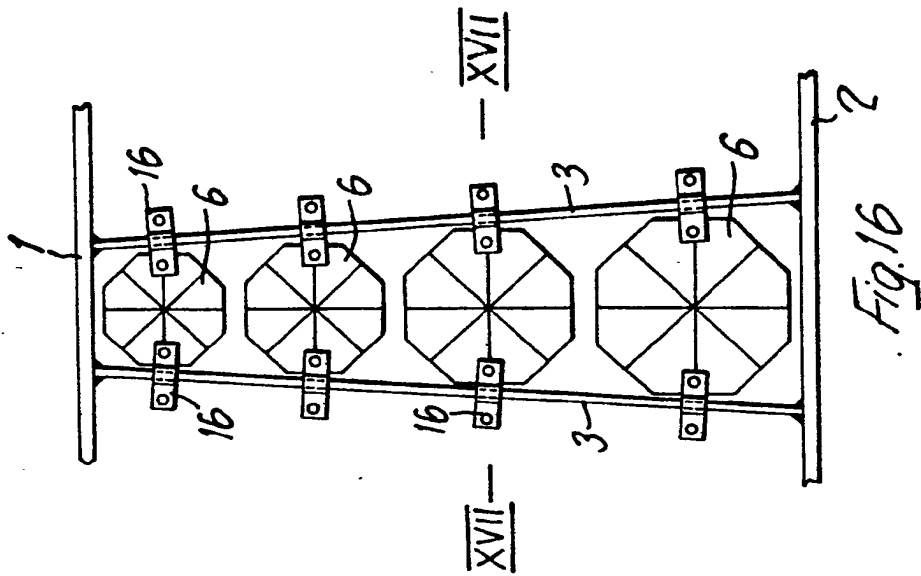
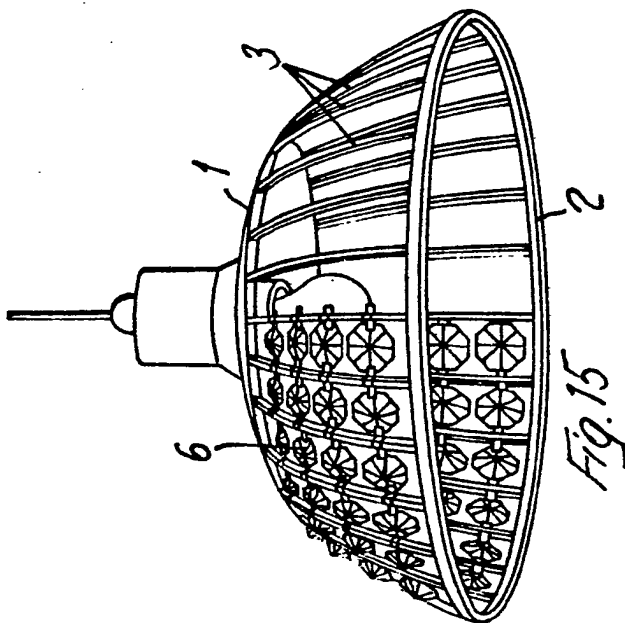
25

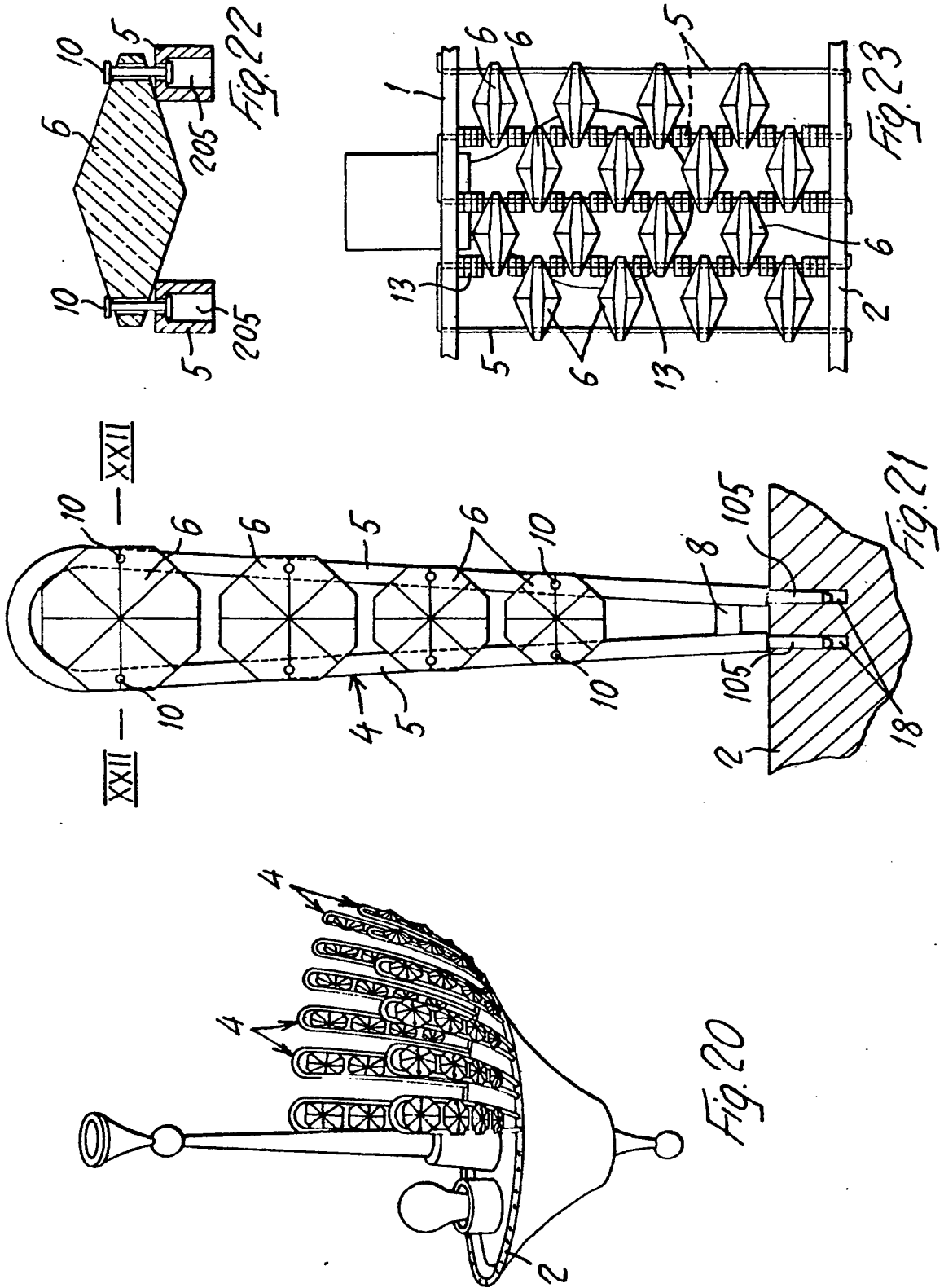
30











19



Europäisches Patentamt
European Patent Office
Office européen des brevets

11 Publication number:

**0 200 924
A3**

12

EUROPEAN PATENT APPLICATION

21 Application number: **86104566.4**

51 Int. Cl.: **F 21 V 5/06**

22 Date of filing: **03.04.86**

30 Priority: **12.04.85 IT 1515685 U**
12.04.85 IT 1515785 U
24.07.85 IT 1521585 U

71 Applicant: **Bortoluzzi, Pietro, Via Roma 135,
I 31010 Godega S.U. (Treviso) (IT)**

43 Date of publication of application: **12.11.86**
Bulletin 86/46

72 Inventor: **Bortoluzzi, Pietro, Via Roma 135,
I 31010 Godega S.U. (Treviso) (IT)**

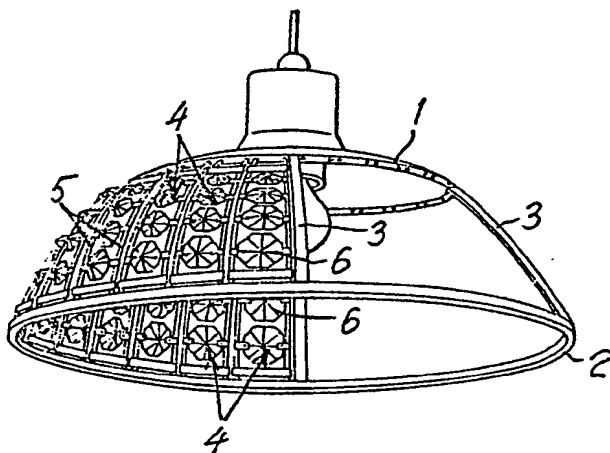
84 Designated Contracting States: **AT BE CH DE FR GB IT LI
LU NL SE**

88 Date of deferred publication of search
report: **27.07.88 Bulletin 88/30**

74 Representative: **Porsia, Bruno et al, c/o Succ. Ing.
Fischetti & Weber Via Caffaro 3/2, I-16124 Genova (IT)**

54 **Crystal elements light fixture.**

57 At least a part of the light fixture consists of at least one row of crystal elements (6) mounted between two supporting lateral rods (5) that can be fastened, preferably in a removable manner, between two spaced apart co-axial rings (1, 2) of the supporting structure of the light fixture.



EP 0 200 924 A3

ACTORUM AG



European Patent
Office

EUROPEAN SEARCH REPORT

0200924

Application Number

EP 86 10 4566

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int. Cl.4)
A	US-A-3 810 295 (KIRTH) * Column 2, line 61 - column 3, line 5; column 4, lines 20-39; figures 1,4,10 *	1,4,16	F 21 V 5/06
A	DE-A-2 127 913 (SCHONBEK) * Figures 10,11 *	1,9	
A	AT-B- 292 843 (POPP) * Page 1, lines 20-23; figures 4,6,7-12 *	2,3,12	
A	US-A-2 702 341 (TRADELIUS) * Column 2, lines 51-58; figures 1,2 *	16,20	
A	DE-A-2 049 706 (SCHONBEK) * Page 10, paragraph 2; figure 10 *	10	
A	DE-A-2 525 755 (PALME & CO.) * Page 7, last line - page 8, line 3; page 12, claim 1; figure 1 *	12,23	
			TECHNICAL FIELDS SEARCHED (Int. Cl.4)
			F 21 V
The present search report has been drawn up for all claims			
Place of search THE HAGUE		Date of completion of the search 24-03-1988	Examiner VAN OVERBEEKE J.J.
CATEGORY OF CITED DOCUMENTS			
X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document		T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons ----- & : member of the same patent family, corresponding document	

EPO FORM 1503 01.82 (P0461)